

IN THE CLAIMS

Current Listing Of Claims:

1. (Currently Amended) A photoacid generator, comprising:
an antenna group comprising an diphenyliodonium; and
a carborane-based group, wherein the carborane-based group is functionalized on a carbon atom by a group that modifies the polarity of the anionic carborane.
2. (Original) The photoacid generator of claim 1, wherein the carborane-based group is halogenated by between one and six halogens.
3. (Original) The photoacid generator of claim 2, wherein the carborane-based group is hexachlorocarborane.
4. (Original) The photoacid generator of claim 1, wherein the carborane-based group is functionalized on at least one boron atom by a group having a high electronegativity.
5. (Original) The photoacid generator of claim 1, wherein the carborane-based group is functionalized by an etch-resistant group.
6. (Original) The photoacid generator of claim 1, wherein the carborane-based group is functionalized on a boron atom by an alkyl group.
7. (Cancelled)

8. (Cancelled)

9. (Currently Amended) A composition, comprising:

a photoacid generator moiety comprising a carborane, wherein the carborane-based group is functionalized on a carbon atom by a group that modifies the polarity of the cationic carborane;

a photoimageable species; and

a quencher.

10. (Original) The composition of claim 9, wherein the composition is formulated to serve as a 193nm photoresist.

11. (Currently Amended) The composition of claim 9, wherein the composition is formulated to serve as an EUV photoresist sensitive to an electron beam.

12. (Currently Amended) The composition of claim 9 11, wherein the EUV photoresist is sensitive to light having a wavelength of 13.5nm.

13. (Cancelled)

14. (Previously Presented) The composition of claim 9, further comprising an additive.

15. (Currently Amended) The composition of claim 9 14, wherein the additive is in the approximate range of 0.1 – 5% by weight of the composition.

16. (Previously Presented) The composition of claim 9, further comprising a solvent.
17. (Original) The composition of claim 16, wherein the solvent is in the approximate range of 1% - 5% by weight of the composition.
18. (Previously Presented) The composition of claim 9, wherein the photoacid generator moiety comprising a carborane is in the approximate range of 0.1% and 5% by weight of the composition.
19. (Previously Presented) The composition of claim 9, wherein the photoacid generator moiety comprising a carborane is in the approximate range of 0.5% and 2.5% by weight of the composition.
20. (Previously Presented) The composition of claim 9, wherein the photoimageable species is a polymer.
21. (Previously Presented) The composition of claim 9, wherein the photoimageable species is in the approximate range of 80% and 97% by weight of the composition.
22. – 24. (Cancelled)
25. (Original) A method comprising:
- applying a photoresist to a substrate, the photoresist comprising a carborane-based photoacid generator;
 - patterning the photoresist by irradiating the photoresist; and

etching the substrate.

26. (Original) The method of claim 25, wherein applying a photoresist to the substrate comprises applying a chemically amplified photoresist to the substrate.

27. (Original) The method of claim 26, wherein the chemically amplified resist is a high activation energy resist.

28. (Original) The method of claim 25, wherein patterning the photoresist by irradiating the photoresist comprises exposing the photoresist to light having a wavelength of 193nm.

29. (Original) The method of claim 25, wherein patterning the photoresist by irradiating the photoresist comprises exposing the photoresist to light having a wavelength in the extreme ultraviolet region of the spectrum.

30. (Original) The method of claim 29, wherein the wavelength in the extreme ultraviolet region of the spectrum is 13.5nm.

31. (New) The method of claim 25, wherein patterning the photoresist by irradiating the photoresist comprises exposing the photoresist to an electron beam.

32. (New) A photoacid generator, comprising:

an antenna group comprising a sulfonium; and

a carborane-based group, wherein the carborane-based group is functionalized on a carbon atom by a group that modifies the polarity of the anionic carborane.

33. (New) The photoacid generator of claim 32, wherein the sulfonium comprises triarylsulfonium.

34. (New) The photoacid generator of claim 32, wherein the sulfonium is further modified by alkyl groups.

35. (New) A composition, comprising:

a photoacid generator moiety comprising a carborane, wherein the carborane-based group is functionalized on a carbon atom by a group that modifies the polarity of the cationic carborane;

a photoimageable species;

a quencher; and

reaction products thereof.

35. (New) The composition of claim 34, wherein the composition is formulated to serve as a 193nm photoresist.

36. (New) The composition of claim 34, wherein the composition is formulated to serve as an EUV photoresist.

37. (New) The composition of claim 34, wherein the composition is formulated to serves as a photoresist sensitive to an electron beam.